



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,312	03/01/2004	Udayakumar Srinivasan	2705-322	1805

20575 7590 08/28/2006

MARGER JOHNSON & MCCOLLOM, P.C.  
210 SW MORRISON STREET, SUITE 400  
PORTLAND, OR 97204

EXAMINER
----------

ZAMAN, FAISAL M

ART UNIT	PAPER NUMBER
----------	--------------

2112

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/791,312	<b>Applicant(s)</b> SRINIVASAN ET AL.	
	<b>Examiner</b> Faisal Zaman	<b>Art Unit</b> 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 29-42** are rejected under 35 U.S.C. 102(e) as being anticipated by Trehus et al. ("Trehus") (U.S. Patent No. 6,963,954).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

**Regarding Claim 29**, Trehus discloses a method comprising:

Receiving, at a bridge device (Figure 1, item 18 or Figure 4, item 62, Column 2, lines 6-8 and Column 3, lines 58-62), a read request from an expansion device (Figure 2, items 38/39 and 40, Column 2, lines 45-46);

Art Unit: 2112

Issuing a read request from the bridge device to a portion of a system memory predetermined to have descriptor addresses associated with the read request (Figure 2, item 43, Column 2, lines 61-64);

Receiving descriptor blocks including descriptor data at the bridge device, wherein the descriptor data includes a transmit size, a location of the transmit data, and an address of the data to be transmitted (Figure 2, item 42, Column 2, lines 52-60);

Storing the descriptor data in a memory on the bridge (Figure 2, item 42, Column 2, lines 52-56);

Transmitting the descriptor blocks to the expansion device (Figure 5, item 84 and 88, Column 5, lines 40-48);

Receiving a read request for data associated with the descriptor blocks (Figure 2, item 41, Column 2, lines 46-49);

Searching the memory for the descriptor addresses (Figure 2, item 41, Column 2, lines 46-49); and

If the descriptor addresses are located in the memory on the bridge, fetching the data requested and prefetching any remaining data to match the transmit size (Figure 2, items 41 and 43, Column 2, lines 61-64).

**Regarding Claim 30**, Trehus discloses wherein storing the descriptor data comprises storing the descriptor data in a hash table (Figure 1, item 27 or Figure 4, item 64; ie. the use of hash tables is well known in the art, as evidenced by Berry et al. [Column 26, lines 28-34], cited below under Relevant Art).

**Regarding Claim 31**, Trehus discloses wherein searching the memory further comprises searching the hash table using a read request as a key (Figure 1, items 38/39 and 27/28 and Figure 2, item 41, Column 2, lines 46-49).

**Regarding Claim 32**, Trehus discloses prefetching the data by cacheline, if the descriptor addresses are not located in the memory (Column 4, lines 29-31).

**Regarding Claim 33**, Trehus discloses wherein storing the descriptor data comprises:

Determining that the memory is full; discarding an oldest descriptor in the memory; and storing the descriptor in the memory (Figure 2, items 44-47, Column 3, lines 3-10).

**Regarding Claims 34-37**, all the same elements of Claims 29-33 are listed, but in computer program product form rather than method form. Therefore, the supporting rationale of the rejections to Claims 29-33 apply equally as well to Claims 34-37.

**Regarding Claims 38-41**, all the same elements of Claims 29-33 are listed, but in apparatus form rather than method form. Therefore, the supporting rationale of the rejections to Claims 29-33 apply equally as well to Claims 38-41.

Art Unit: 2112

**Regarding Claim 42**, all the same elements of Claim 1 are listed, but in apparatus form rather than method form. Therefore, the supporting rationale of the rejection to Claim 1 applies equally as well to Claim 42.

***Relevant Art/Prior Art of Record***

3. Berry et al. ("Berry") (U.S. Patent No. 6,766,511) is cited as Relevant Art.
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yang et al. (U.S. Patent No. 5,606,665) discloses buffer descriptor prefetch in network and I/O design. Jarmillo et al. (U.S. Patent Application Publication No. 2003/0093608) discloses a method for increasing peripheral component interconnect (PCI) bus throughput via a bridge for memory read transfers via dynamic variable prefetch. Peters et al. (U.S. Patent No. 6,636,927) discloses a bridge device for transferring data using master-specific prefetch sizes.

***Response to Arguments***

5. Applicant's arguments with respect to claims 29-42 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faisal Zaman whose telephone number is 571-272-6495. The examiner can normally be reached on Monday thru Friday, 8 am - 5:30 pm (every-other-Friday off).

Art Unit: 2112

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

fmz

  
REHANA PERVEEN  
SUPERVISORY PATENT EXAMINER  
8/23/06